



Duct Efficiency Tables

Heating

Attic		CZ6-7	CZ4-5	CZ3	CZ1-2
R-0	Leaky	64%	69%	72%	75%
	Average	68%	73%	76%	79%
	Tight	73%	77%	80%	83%
R-2	Leaky	73%	76%	79%	81%
	Average	79%	82%	84%	85%
	Tight	85%	87%	89%	90%
R-4+	Leaky	76%	79%	81%	82%
	Average	82%	84%	86%	87%
	Tight	89%	90%	91%	92%
R-8+	Leaky	78%	80%	82%	84%
	Average	84%	86%	87%	89%
	Tight	91%	92%	93%	94%

Basement

Basement		CZ6-7	CZ4-5	CZ3	CZ1-2
R-0	Leaky	92%	93%	93%	93%
	Average	94%	94%	94%	95%
	Tight	95%	95%	96%	96%
R-2	Leaky	94%	94%	95%	95%
	Average	95%	96%	96%	96%
	Tight	97%	97%	97%	98%
R-4+	Leaky	95%	95%	95%	95%
	Average	96%	96%	97%	97%
	Tight	98%	98%	98%	98%
R-8+	Leaky	95%	95%	96%	96%
	Average	97%	97%	97%	97%
	Tight	98%	98%	98%	98%

Vented Crawl

Vented Crawl		CZ6-7	CZ4-5	CZ3	CZ1-2
R-0	Leaky	71%	74%	77%	79%
	Average	74%	78%	80%	82%
	Tight	78%	82%	84%	86%
R-2	Leaky	78%	80%	82%	84%
	Average	83%	85%	86%	88%
	Tight	88%	90%	91%	92%
R-4+	Leaky	80%	82%	84%	85%
	Average	85%	87%	88%	89%
	Tight	91%	92%	93%	94%
R-8+	Leaky	82%	84%	85%	86%
	Average	87%	89%	90%	90%
	Tight	93%	94%	94%	95%

Cooling

Attic		CZ6-7	CZ4-5	CZ3	CZ1-2
R-0	Leaky	61%	61%	61%	61%
	Average	66%	64%	62%	62%
	Tight	74%	73%	71%	72%
R-2	Leaky	67%	65%	64%	62%
	Average	75%	74%	73%	71%
	Tight	85%	84%	83%	83%
R-4+	Leaky	70%	67%	67%	64%
	Average	78%	77%	76%	74%
	Tight	88%	87%	87%	86%
R-8+	Leaky	71%	69%	69%	66%
	Average	80%	79%	79%	76%
	Tight	90%	90%	89%	89%

Basement

Basement		CZ6-7	CZ4-5	CZ3	CZ1-2
R-0	Leaky	92%	81%	79%	74%
	Average	95%	87%	85%	81%
	Tight	98%	94%	91%	89%
R-2	Leaky	92%	83%	82%	77%
	Average	95%	88%	87%	84%
	Tight	98%	95%	94%	92%
R-4+	Leaky	93%	83%	82%	78%
	Average	95%	89%	88%	85%
	Tight	98%	95%	94%	93%
R-8+	Leaky	93%	83%	83%	78%
	Average	95%	89%	89%	86%
	Tight	98%	95%	95%	94%

Vented Crawl

Vented Crawl		CZ6-7	CZ4-5	CZ3	CZ1-2
R-0	Leaky	90%	76%	72%	67%
	Average	93%	83%	78%	75%
	Tight	97%	91%	85%	84%
R-2	Leaky	91%	78%	76%	71%
	Average	94%	85%	83%	79%
	Tight	97%	93%	91%	89%
R-4+	Leaky	91%	79%	77%	72%
	Average	94%	86%	84%	81%
	Tight	97%	94%	92%	91%
R-8+	Leaky	91%	79%	78%	73%
	Average	94%	87%	85%	82%
	Tight	98%	94%	93%	92%

Notes:

- Duct system efficiency is determined separately for heating (left side) and cooling (right side) systems.
- Based on duct location, insulation R-value, and leakiness, look up the duct system efficiency in the column for your IECC climate zone.
Example: In climate zone 5, a heating duct system in an attic, with average duct leakage and R-4 insulation, would have 84% efficiency.
- For duct systems partly in unconditioned and conditioned space, add the values from the table below (but never more than 100%).
*For the above example, if the duct system were 50% or more inside conditioned space, add 3% for a net of 87%;
if the same duct system were 80% or more inside conditioned space, add 4% to 84% for a net of 88% efficiency.*

Adders for partial conditioned space

Attic	50% inside		80% inside	
	heat	cool	heat	cool
R-0	6%	4%	11%	9%
R-2	4%	4%	6%	7%
R-4+	3%	3%	4%	5%
	2%	2%	3%	3%

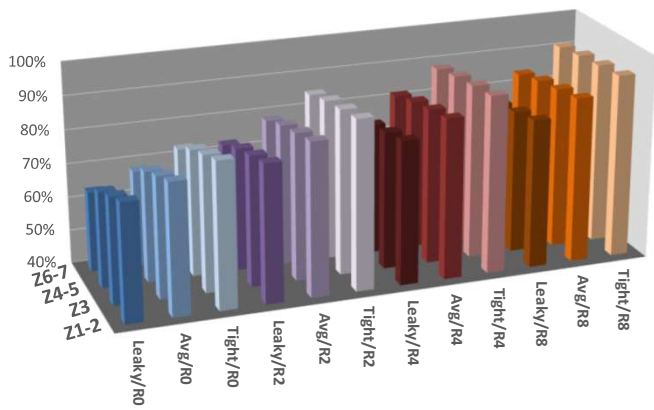
Basement	heat		cool	
	heat	cool	heat	cool
R-0	2%	2%	3%	3%
R-2	1%	1%	1%	2%
R-4+	1%	1%	1%	1%

Adders for partial conditioned space

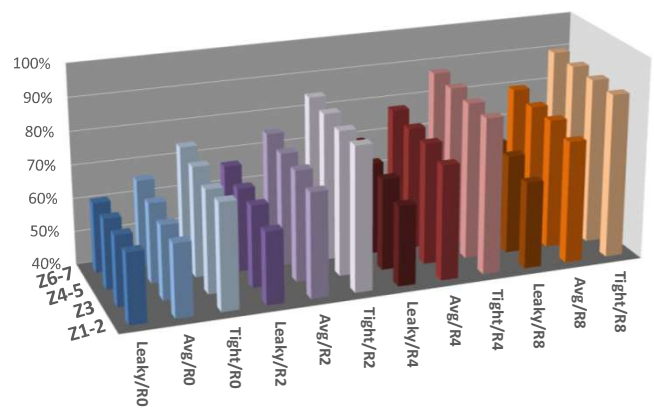
Vented Crawl	50% inside		80% inside	
	heat	cool	heat	cool*
R-0	6%	3%	11%	5%
R-2	3%	2%	5%	3%
R-4+	2%	1%	4%	3%
	2%	1%	2%	2%

*in CZ6-7, 80%/cool, adder is always 1%

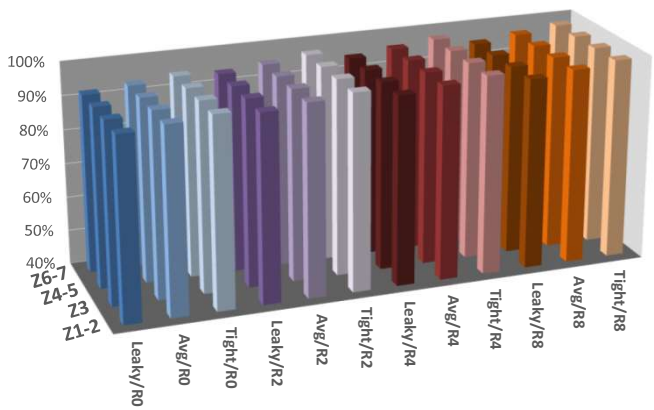
Heating - Attic



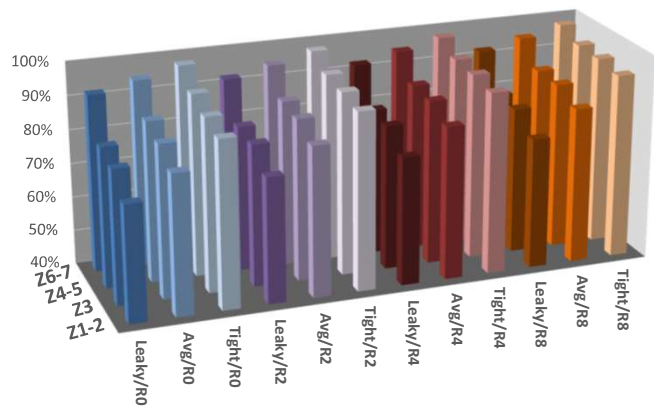
Cooling - Attic



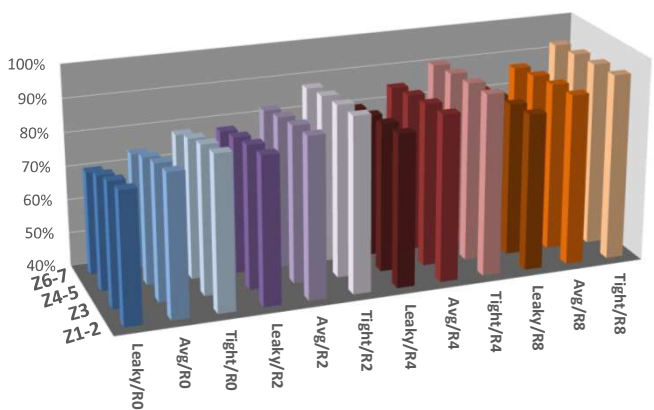
Heating - Bsmt



Cooling - Bsmt



Heating - Vented Crawl



Cooling - Vented Crawl

